DOCUMENT RESUME

ED 177 585 CS 205 222

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TITLE List-Making and Categorizing: The Neglected Step in Classification. Development Report Number 3.
INSTITUTION Illinois Univ., Urbana. Curriculum Lab.
PUB DATE Oct 79
NOTE 15p.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Classification; *Composition (Literary); *English Instruction; Secondary Education; *Teaching Techniques; *Writing Skills

ABSTRACT

A necessary but neglected step in teaching classification to inexperienced writers is list making and categorizing. Learning that step gives the untrained writer practical experience in learning that a good writer classifies for a purpose and that a relationship exists between the evidence, the categories, the outline, the paragraph, and the whole paper. Seventh grade students have a difficult time classifying using broad abstractions and categories that are grammatically parallel. Some lessons in list making and categorizing include: listing and categorizing in teacher-made categories the nouns in "The Walrus and the Carpenter"; listing and categorizing in student-made categories the nouns in "The Copperfaces, the Red Men" by Carl Sandburg; doing a series of lessons on horizontal and vertical classification taken from "The Difficult Learning Project" and from a rhetoric textbook; and doing a series of speeches and essays based on classification of hobbies and on the reading of literature. From these lessons, students learn that lists and categories can help in understanding literature better, learn to recognize the relationship between items in lists and categories, learn how important language is in classifying, and learn to organize their writing better. (TJ)

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ED177585

THE CURRICULUM LABORATORY
COLLEGE OF EDUCATION
UNIVERSITY OF ILLINOIS

Development Report

Number 3

List-making and Categorizing: The Neglected Step in Classification

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Urbana, Illinois 61801

October 1979

List-making and Categorizing:

The Neglected Step in Classification

Whenever we assign papers on literary, research, or personal experience topics, we expect students to find their evidence. We tell them that they can find evidence in the literary works they read, in the library, or from their experience. We may say, "Go through the book and find all the evidence that will prove your thesis." When we ask them to write about their personal experience or knowledge, we expect them to create materials "out of their heads." We tell them: "Think about everything you know." But we seldom give them practice in that first step -- finding the material or evidence. Neither do we give them much experience or instruction in fitting those items, memories, or evidence under categories. We expect students to classify before they know two necessary preliminary steps -- list-making and categorizing.

High school composition textbooks that deal with classification at all ignore the first step by providing the list or evidence. The textbooks instruct the student to do exercises like "classify the sizes of rocks" or "rearrange the shapes of Christmas tree ornaments." They provide evidence in the form of pictures. Textbooks sometimes give a list of items and ask students to classify the list "according to a principle." But the textbooks do not give the student experience getting his own items or his own list of evidence.

At University High School, University of Illinois, a school for intellectually gifted students, we usually teach classification at the ninth and tenth grade levels. At the seventh grade, we introduce collecting evidence, writing from a thesis, and formal outlining. In my fifteen years' experience teaching at the school, I have found one of the most difficult

tasks boys and girls grades seven through ten have is in developing categories for their evidence. They often have excellent material, but they do not ordinarily know what to do with it or how to categorize it. Consequently, the seventh grade seemed to be the logical place to teach list-making and categorizing. I wanted to see if beginning with list-making would help students use their raw material in more purposeful ways.[1]

List-making is a natural activity. When my grandson was a fifth grader, his mother found a list entitled, "My Girl Friends." He has been making lists of "Things I Want for My Birthday and Christmas" since he was old enough to read and write. When my college-age daughter was overweight, she wrote to herself:

Don't eat chocolate or ice cream

Run every morning

Don't eat between meals.

Many years after the high school prom, after my son had gone off to make his way in the world, this list turned up in the cluttered recesses of his desk:

Shave

Corsage

Deodorant

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[1] The "Difficult Learning Project" at University High School, University of Illinois, Urbana, supported by the Carnegie Foundation in 1974-76, discovered that seventh-grade students (from selected schools) found classification a difficult task. I wish to thank Alan Purves, Director of the Project and Director of the Curriculum Laboratory, University of Illinois, for suggesting that list-making is a neglected step in the process of teaching classification.

Recognizing this natural inclination of the young to make lists, I hoped that I could make students aware of (1) the necessity of purpose in classifying, (2) the relationship between list-making, categorizing, outlining, and paragraphing. Since my goal was to make them better writers of non-fiction prose, I hoped that this process would improve their compositions. I was pleased to find that in later compositions, their categories were grammatically parallel, and their paragraphs were more unified as a result of their ability to see the relationship between the category and evidence. I was surprised and pleased to see how much the students learned about the importance of language in classifying, even though that objective was not one when I planned the lesson.

Before beginning the listing/categorizing unit, I asked students to write a paper giving the advantages of being allowed to do something. I gave them a thesis outline: "I should be allowed to do _____, and the advantages will be _____, _____ __ and _____." I also gave them a model to follow, a composition written on the advantages of being allowed to wear long bangs. The students had been writing compositions and giving speeches from sentence outlines all semester -- a short research report, essays about the literature, and speeches about their personal experience. The Advantages paper was assigned to see how well they could classify their own experience and knowledge.

They had a difficult time with the essay.[2] Seventeen of the fifty students did not classify by advantages. Twelve made a list of reasons why

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[2] I was responsible for part of the problem the students had with this assignment. I should have asked them to pre-classify by giving them reasons for wanting to do something. Then I should have asked them to translate their reasons into advantages. I expected them to do a very difficult kind of classification; however, it is unlikely the results would have been very different, no matter what the topic.

they should be allowed to do something. Fourteen others mixed reasons with advantages. Only six of the students used an abstraction (or an "umbrella term") for their categories. Only three of these students used categories that were grammatically parallel. Typical of one of the better classifications was on the topic "I Should be Allowed to Chew Gum in Class." The following "thesis-outline" will show the difficulty the writer had with her categories.

I should be allowed to chew gum in class because

(1) it keeps me quiet and still

(2) it helps to calm me

(3) it gives my jaws exercise

(4) it saves embarrassment.

In class discussion, students concluded that this writer had only one category -- psychological advantages. The class agreed that gum chewing keeps me quiet and still should be combined with it helps to calm me, and it saves embarrassment. The class said that it gives my jaws exercise was too trivial to use except, perhaps, in an introduction. The writer hadn't properly classified her advantages. She had a one-category paper.

Most of the categories students used in this paper were overlapping and grammatically unparallel. They were also on different levels of abstraction -- some categories more general than others. Typical of this flaw was this thesis outline:

I should be allowed to skate on the pond because

(1) it is economic

(2) healthy for me

(3) safe

(4) improves my relationship with people, and

(5) personality.

Since the categories were muddled, the paragraph structure was weak. In class discussion, the students agreed that the writer would have done better to classify her advantages under the categories of social, economic, and health advantages.

It was obvious from the results of this assignment that the students didn't have the necessary skills to classify their evidence under grammatically parallel categories. Consequently, their theses and outlines were faulty, and their paragraphs were disorganized. The list-making exercises that followed after the pre-essay taught them a process that improved their organization and paragraphing.

DESCRIPTION OF LIST-MAKING AND CATEGORIZING LESSONS

1. I gave the students the first thirteen stanzas of "The Walrus and the Carpenter." I asked them to list all the naming words (nouns). After that they were expected to classify the lists under categories I had devised. Then the students answered questions that dealt with the purpose of the exercise and the ruling principle of the categories. Class discussion followed.
2. The students listed all the nouns in the first eleven lines of "The Copperfaces, the Red Men" by Carl Sandburg. From this list they made their own categories. Class discussion followed.
3. A series of five lessons on horizontal and vertical classification followed, all taken from "The Difficult Learning Project" and Rhetoric in Thought and Writing.[3] Home-work assignments and class discussion were part of these lessons.
4. Follow-up speeches and essays concluded the unit. The first essay asked students to describe how they classified their hobby or some

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[3] Levy, Edward R. and Charlene Tibbetts, Holt, Rinehart and Winston, 1972.

other subject in which classification was important. The other assignments were based on their reading of literature studied.

A graduate student recorded and transcribed all the class sessions. She also interviewed twelve of the fifty students in order to get additional information about their thinking processes when they classified. s the unit progressed, students began to understand the objectives of the lesson. Evaluation sheets were attached to each of the exercises, showing each student how well he had met the objectives of the lesson. As a class, each group knew how well it had done. Each student received constant reinforcement and assurance that he was indeed improving in his ability to understand the purpose of classification and the nature of categories.

The students learned first from the list-making exercise that lists and categories are made for a purpose. One of my purposes in using "The Walrus and the Carpenter" as a list-making exercise was to show students that Carroll uses the technique of the ridiculous list in his nonsense poem. Even though students never used the term "ridiculous list," they used words like "weird" or "strange" to describe their lists. They recognized that Carroll's poem was full of items one would not ordinarily think of as belonging together. One student said: "The lists make the poem fun to read because the main characters are a Walrus and a Carpenter, and you don't normally associate a Carpenter with the sea or a Walrus and a Carpenter together." Another said, "The animals or humans make the poem fun to read because generally you wouldn't think of a king and a pig at the same time, but Lewis Carroll did."

Students wrote that the list-making helped them to understand the poem better, or to look at it from a different perspective:

"With the lists I could clearly see all the categories and picture them in the poem."

"The lists made this poem more interesting because it is so diverse. If I hadn't had the list I might not have been able to see the humor in the poem as well."

"The lists add humor and variety to the poem. It's easier to notice words in a list that you would otherwise take for granted and not really think about."

In order to impress upon the students the fact that classification systems are man-made, I reminded them often that I was the one who had set up the categories for "The Walrus and the Carpenter." Since I wanted them to see that someone else might have chosen another set of items to list, I asked the question: In what ways would another kind of classification be more or less useful? Typical responses from nearly half of the students were:

"A classification of nouns, verbs, adverbs, etc. would help if you wanted to find out the ratio between nouns and verbs in the poem, but it wouldn't be much good for figuring out what the poem's about."

"Lists of verbs or adjectives would be less useful because the interesting part of the poem is the nouns."

"Other classification might not be as useful because other type of things in this poem [besides the nouns] are not as diverse. For example, a classification of verbs. Nobody would think it unusual to associate walking, trotting, sorting, etc."

"Alphabetic classification could be useful, especially if we were to have a spelling test on the words."

Second, the students learned to recognize the relationship between the items in the lists and the categories. With no previous instruction in the nature of abstractions, but by observing the kind of categories I had chosen in the first exercise, thirty-six of fifty students commented, in writing, that the category was broader and more general than the words listed under each category. In answer to the question: How is the category's name different from the items listed? I received answers like the following:

> "The categories were more broad and had something to do with the words [in the list]."
>
> The categories are not specific at all. They are very generalized (so as to include diverse topics)."
>
> "The words in your lists are precise and the ones for your headings aren't so precise."

Some of the students could see why I had chosen the categories:

> "Every category has a logical relationship with the poem."
>
> "These categories were chosen because that is what the poem was made up of."
>
> "With these categories you can group almost any noun in the story."

When it came time for the students to develop their own categories from a list, they made some mistakes, but, generally, they used good logic. The assignment called for them to develop their own categories from the list of nouns in the first eleven lines of "The Copperfaces, The Red Men." The list of nouns in the poem includes items like Peruvians, Italians, Siberians, tobacco, spud, sunflowers, chestnuts, peaches, walnuts, rye, cucumber, and onion. The poem deals with the gifts that other cultures

have given America, so the lists could have been classified into two categories -- people and gifts. However, no one chose these most obvious categories until much later. All of the students used at least three and sometimes four or five categories. The categories chosen by half of the students were mutually exclusive -- nationalities, plants, and other. Thirteen students classified tobacco under food, but thirteen other students avoided the problem of what to do with tobacco by using categories like food, races, smoking, and other. Two other students creatively designed a category of things that can be eaten or chewed or things that can be tasted.[4] They were getting practice in seeing the relationship between the specifics and the categories.

Students learned what to do with the leftovers in a classification system. Any noun that wouldn't fit their classification system could go in the other category. As one student said, "The other category is a safety device for words that do not fit the other topics."

Even though I didn't expect it, students learned how important language is in classifying. Through the process of listing nouns, the students became aware of the importance of grammatical parallelism in classification. In later exercises, the students answered the question: What is confusing about each of the following classifications?

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[4] In whatever way students developed their categories, they tried to give logical reasons for their decisions. For instance, some of the students were quite adamant about using food as a category rather than plant: "It makes you think there's a chestnut plant and a peach plant, and there really isn't. What they're supposed to be giving us is the food - they don't just give us the plants. They're supposed to be giving us these so we can eat them."

Flowers: roses, red, long-stemmed, violets

Fruits: bananas, apples, green, peaches, pitted

Animals: horses, feathered, chickens, robins

Some of the students observed that the lists mixed adjectives with nouns, causing a flawed classification. Although the mixed grammar isn't the only thing wrong with the above lists, identifying that particular flaw gave them a perspective from which to look at classification.

Looking at the language, and the poet's use of oyster in "The Walrus and the Carpenter" provided an opportunity to discuss cross-ranking. The students learned very quickly that a classifier cannot usually put the same term in two different categories; otherwise he is cross-ranking or cross-classifying. However, we discovered that Carroll uses oysters several times, most often as a class of animal that has human qualities -- oysters can walk, talk, and think. However, since the Walrus and the Carpenter eat the oysters later, they become a class of food. During class discussion, the question arose as to how many times oysters could be used in a classification of nouns from the poem.

Student: "I don't think of oyster as an animal."

Teacher: "How many times does Carroll use the word oysters?"

Student: "A lot."

Teacher: Does he use oyster as a category of food as well as a category of animal?

Student: "Yes."

Teacher: "Then you would be justified in putting oyster in two different categories, if the poet uses them that way in the poem."

From this dialogue, the students could see that the way a word is used may dictate its placement in a classification system. Also, they could see that the classifier must think about what he is doing.

Since my primary objective in teaching list-making was to improve the students' compositional skills, I expected that they would be able to organize better, and I was not disappointed. In the last stage of the program, the students wrote three essays, one from personal experience, and two from the literature studied. The personal experience topic asked them to describe the way they classified their hobby or some other part of their lives such as their closet, dresser drawers, etc. They were instructed to tell the advantages of their system of classifying in their thesis: "I classify my _____ according to _____, _____, _____ because _____." These papers showed a great improvement over the pre-essay assignment written on the advantages of being allowed to do something. About half of the students used classes that were grammatically parallel. Twenty-nine of the forty-nine who wrote the paper discussed the advantages (or purpose) of their classification system. Only four used overlapping categories, and only three used a list of reasons rather than classifying by method.

Twenty-one of the forty-nine students sub-categorized their classification system. For example, a student's thesis on his stamp collection: I classify first by country, then by value, year, and color. He didn't list the countries in his paper because he realized that classifying a stamp collection by country was only a preliminary step and not significant or useful.

Throughout the rest of the semester, I made a conscious effort to help and encourage students to apply the list-making/categorizing/outlining skills to their essays and speeches. For all these assignments, students were required to write sentence outlines, using grammatically parallel categories. Since they had exercises on division, and since the list-making lessons showed them how to sub-categorize, they could see that they were dividing when they made sub-categories of their main points. The category headings became the topic sentences for their paragraphs; thus their paragraphs became more unified. As the students practiced this process, they showed marked improvement when they wrote their final essay of the year.

The last essay was based on their reading of three plays. Of the forty-five who wrote outlines, thirty-one had two or more major categories stated in parallel terms equal in value. All of these thirty-one students had two to four grammatically parallel sub-categories supporting each of the major categories. With only a few minutes of instruction at the time I first saw their outlines, the other fourteen students were able to improve them, fulfilling the requirements of the assignment. By the time the students were ready to write their papers, they had the process of list-making/categorizing/outlining down pat.

After the unit was completed, I discussed the entire process with the students. They admitted that, at the time, they had not liked the listing exercises because they felt very insecure doing them. However, they also admitted that as time went on the process of listing and categorizing became automatic when they considered an essay or speech topic.

I believe that list-making and categorizing are a neglected but necessary step in teaching classification to inexperienced writers. Finding and classifying evidence is the primary thing amateur writers must learn to do before they can progress to more sophisticated assignments. The step that I call list-making and categorizing gives the untrained writer certain practical experiences. He learns two important things -- a writer classifies for a purpose, and a relationship exists between the evidence, the categories, the outline, the paragraph, and the whole paper.